

CLAIMS

What is claimed is:

1 1. A method for controlling acceleration behavior of a vehicle
2 comprising:
3 determining a rate of change of a pedal position;
4 selecting a performance mode based on the rate of change,
5 wherein the performance mode is indicative of performance characteristics of an
6 engine;
7 determining an acceleration condition; and
8 controlling acceleration according to the performance mode
9 and the acceleration condition.

1 2. The method of claim 1 wherein determining the acceleration
2 condition includes determining the acceleration condition according to at least
3 one of turbine speed, engine speed, vehicle speed, engine acceleration, vehicle
4 acceleration, and pedal movement.

1 3. The method of claim 1 wherein the performance
2 characteristics include transmission ratio and power request damping.

1 4. The method of claim 1 wherein controlling the acceleration
2 includes adjusting acceleration according to the performance mode if the
3 acceleration condition is a first value.

1 5. The method of claim 4 further comprising selecting a default
2 performance mode if the acceleration condition is a second value.

1 6. The method of claim 4 further comprising maintaining the
2 performance mode for a first period if the acceleration condition is the first value.

1 7. The method of claim 1 wherein determining the rate of
2 change includes determining a pedal voltage.

1 8. The method of claim 7 further comprising:
2 filtering the pedal voltage to determine a filtered pedal
3 voltage;
4 comparing the filtered pedal voltage to the pedal voltage;
5 and
6 selecting a performance mode if a rate of change of the
7 pedal voltage exceeds a rate of change of the filtered pedal voltage.

1 9. The method of claim 8 wherein filtering the pedal voltage
2 includes filtering the pedal voltage at a filter, wherein the filter includes alpha
3 values indicative of engine speed and vehicle speed.

1 10. The method of claim 9 wherein the alpha values vary as a
2 function of engine speed divided by vehicle speed.

1 11. An electronic throttle controller comprising:
2 a first module that determines a rate of change of a pedal
3 position;
4 a second module that selects a performance mode
5 according to the rate of change;
6 a third module that generates an acceleration signal,
7 wherein the acceleration signal is indicative of a duration of acceleration; and
8 a controller that communicates with the second module and
9 the third module and controls acceleration according to the performance mode
10 and the acceleration signal.

1 12. The electronic throttle controller according to claim 11
2 wherein the first module determines the rate of change according to a pedal
3 voltage and a filtered pedal voltage.

1 13. The electronic throttle controller according to claim 12
2 wherein the second module selects the performance mode if a rate of change of
3 the pedal voltage exceeds a rate of change of the filtered pedal voltage by a
4 threshold.

1 14. The electronic throttle controller according to claim 11
2 wherein the acceleration signal is a first value if a vehicle speed, an engine
3 speed, and the pedal position are constant.

1 15. The electronic throttle controller according to claim 14
2 wherein the acceleration signal is a second value if at least one of the vehicle
3 speed, the engine speed, and the pedal position are not constant.

1 16. The electronic throttle controller according to claim 15
2 wherein the controller adjusts the acceleration according to the performance
3 mode if the acceleration signal is the second value.

1 17. The electronic throttle controller according to claim 11
2 wherein controlling the acceleration includes at least one of adjusting a
3 transmission ratio and damping a power request.

1 18. An electronic throttle controller comprising:
2 a sensor that determines a pedal voltage;

3 a filter that filters the pedal voltage to generate a filtered
4 pedal voltage;

5 a comparator that compares the pedal voltage to the filtered
6 pedal voltage;

7 a controller that communicates with the comparator and
8 selects a performance mode if a rate of change of the pedal voltage exceeds a
9 rate of change of the filtered pedal voltage by a threshold.